FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-5282
SOAP LAKE WASTEWATER TREATMENT PLANT

SUMMARY

The City of Soap Lake is located in Grant County, approximately 20 miles north of Moses Lake at the junction of Highway 17 and 28 (Figure 1 and 2). The City of Soap Lake was incorporated in 1919, as a third class city and is located five miles north of Ephrata and 115 miles west of Spokane, in Grant County. The estimated 2004 population according to the United States Census Bureau is 1,823.

The major topographic feature of the area, and the one that the City derives its primary economic livelihood from, is Soap Lake, a mineral lake containing natural occurring chemicals, which are asserted to be therapeutic in nature. Tourists are drawn to the area to vacation and take advantage of the mineral baths available at the many hotels and motels in the City. The economy has been oriented towards summer tourism, although many retirees are making Soap Lake their permanent home because of the mild, dry climate.

The City of Soap Lake constructed a wastewater treatment plant in 1978 to replace an existing facility which was originally built in 1946. The old system, consisted of a comminutor, two 15 hp aeration basin rotors, one 28' diameter clarifier, one 10,500 gallon digester, three drying beds, a spray application field and a drainfield system. The spray fields were abandoned during the first year of service because of fear of aerosol drift to the road and neighboring school. The system did not provide the level of treatment and protection of the groundwater that is currently required.

Plans for a wastewater treatment plant upgrade were submitted to Ecology during November 2000. Final approval was granted in January, 2001. The upgraded plant became operational in the spring of 2004. Major components of the upgrade include; an Influent grinder, modifying the existing oxidation ditch for nitrogen removal, adding a clarifier, upgrading sludge handling facilities, and replacing the existing land application spray irrigation and drainfield with rapid infiltration basins. The controlling factor for facility design is a Total Nitrogen effluent limit of 10 mg/l.

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INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No.ST-5282. The Department of Ecology (the Department) is proposing to issue this permit, which will allow discharge of wastewater to waters of the State of Washington. This fact sheet explains the nature of the proposed discharge, the Department's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.162) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. Regulations adopted by the State include procedures for issuing permits (Chapter 173-216 WAC), technical criteria for discharges from municipal wastewater treatment facilities (Chapter 173-221 WAC) and water quality criteria for ground waters (Chapter 173-200 WAC). They also establish the basis for effluent limitations and other requirements which are to be included in the permit.

This fact sheet and draft permit are available for review by interested persons as described in Appendix A--Public Involvement Information.

The fact sheet and draft permit have been reviewed by the Office of the Washington State Department of Health and by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of the Department's response. The fact sheet will not be revised. Changes to the permit will be addressed in Appendix D--Response to Comments

GENERAL INFORMATION	
Applicant	City of Soap Lake
Facility Name and Address	Soap Lake Wastewater Treatment Plant; 239 Second Ave SE, Soap Lake, WA 98851
Type of Treatment System:	Extended aeration activated sludge plant
Discharge Location	Latitude: 47° 23' 04" N Longitude: 119° 29' 59" W.
Legal Description of Application Area	SW¼ , SE¼ of Section 24, Township 22, Range 26 E.W.M. Latitude: 47° 23' 04" N. Longitude: 119° 29' 59" W.
Contact at Facility	Name: Rob Herron, Class II Operator Telephone #: (509) 246-1823 Fax #: (509)246-1213
Responsible Official	Name: Wayne Hovde Title: Mayor of Soap Lake

BACKGROUND INFORMATION

DESCRIPTION OF THE COLLECTION AND TREATMENT SYSTEM

HISTORY

The City of Soap Lake constructed a wastewater treatment plant in 1978 to replace an existing facility which was originally built in 1946. The old system, consisted of a comminutor, two 15 hp aeration basin rotors, one 28' diameter clarifier, one 10,500 gallon digester, three drying beds, a spray application field and a drainfield system. The spray fields were abandoned during the first year of service because of fear of aerosol drift to the road and neighboring school. The system did not provide the level of treatment and protection of the groundwater that is currently required.

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COLLECTION SYSTEM STATUS

The collection system consists of approximately 60,000 lineal feet of pipe from 6-12 inches in diameter. Concrete pipe dating to the original installation period from the late 40's and 50's is the predominant material. Some orange clay pipe is also present, but the quantity has not been determined. Recent extensions and replacements of approximately 5700 feet have been constructed of PVC sewer pipe.

The collection system has two pump stations serving the city. Pump station No. 1 serves Basin A which is the area east of the Division Street and north to the city limits. Pump station No. 2 serves Basin B, which is the area west of Division Street and extends from the south to the north city limit. It also receives the discharge from pump station No. 1.

TREATMENT PROCESSES

All wastewater is pumped into the headworks, via a six inch forcemain from lift station #2. The influent grinder structure performs the function of grinding and blocking large objects, which flow through an open channel towards the aeration oxidation ditch. In the ditch, biological oxidation of matter and denitrification occurs. From the oxidation ditch, clarifiers separate sludge for recycle (return activated sludge RAS) and digester influent (waste activated sludge – WAS). Scum from the clarifiers is trapped in the outer raceway and routed into a 10 inch scum pipe, which is rotated once or twice a day on the downstream side of the pipe. In the digester, the WAS is stored during winter months and discharged into the drying beds during summer months. In addition, a sludge handling slab is available for dry sludge storage.

DISTRIBUTION SYSTEM (RAPID INFILTRATION BASIN)

After primary treatment, rapid infiltration occurs in the 6 basins at the Soap Lake Wastewater Treatment Plant. Total area of the basins is 2.6 acres. The summer application period is 7-9 days, with a winter application period of 9-12 days.

As indicated by the Predesign Report for Wastewater Treatment Plant Improvements 2000, surface soils above the water table range from moderately permeable to highly permeable with vertical infiltration rates ranging from 2 to 20 inches per hour.

RESIDUAL SOLIDS

The treatment facilities remove solids during the treatment of the wastewater at the headworks (grit and screenings), in addition to incidental solids (rags, scum, and other debris) removed as part of the routine maintenance of the equipment. Grit, rags, scum and screenings are drained and disposed of as solid waste at the local landfill. After the sludge has been dried on sand drying beds, it is then transferred to the sludge handling slab. From the slab, it is transported to an approved site.

GROUND WATER

A Hydrogeologic Report was completed in September 1997 by Hammond, Collier & Wade-Livingstone Associates Incorporated. The following general information regarding geology and groundwater are taken from this report.

The basic geologic units underlying the Soap Lake area is Columbia River Basalt. The innumerable lava flows of the Tertiary Age left a layered bed of basalt four to five thousand feet deep. Glacial sands and gravels overly the basalt. Tilting and faulting during the Quaternary Age exposed the permeable sedimentary zones in monoclines and anticlines which recharge and store groundwater.

Groundwater occurs in the gravel and the shallower basalt aquifers under water-table conditions. Ground water in some of the deeper basalt aquifers is under artesian pressure. These basalt interflows serve as the principal aquifers in the basalt. One of the most important aquifers in the area exists at a depth of about 500 feet. At most places water in this aquifer is under artesian pressure.

According to the Hydrogeologic Report (1999, Hammond, Collier & Wade-Livingstone Associates Incorporated), groundwater percolates into Soap Lake from the south end of the lake. Most of the groundwater moving northward into the south end of the Lake is believed to flow through one or more gravel-filled channels cut in the underlying basalt.

PERMIT STATUS

This is a newly upgraded facility. An application for a permit was submitted to the Department on May 20, 2004 and accepted by the Department on June 21, 2004.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

The facility last received an inspection on March 4, 2005. During the history of the previous permit, the Permittee has remained in compliance based on Discharge Monitoring Reports (DMRs) and other reports submitted to the Department and inspections conducted by the Department.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge prior to infiltration or land application is characterized for the following parameters averaged from 2003-2005 discharge monitoring reports.

Table 1: Wastewater Characterization

Parameter	Concentration
Flow (mgd)	.161 mgd
BOD (mg/l)	6.4 mg/l
TSS (mg/l)	6.7 mg/l
pH (s.u.)	7.4 – 7.8
TKN (mg/l)	2.4 mg/l
Nitrate-Nitrite (mg/l)	5.8 mg/l
Phosphorus (mg/l)	3.3 mg/l
TDS (mg/l)	528 mg/l
Conductivity (mmhos/cm)	781.7 mmhos/cm

SEPA COMPLIANCE

The permittee has completed SEPA compliance for completed facility. The final determination of non-significance was issued on May 27, 1999.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be either technology- or water quality-based. Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not pollute the waters of the State. The minimum requirements to demonstrate compliance with the AKART standard are derived from the *Water Reclamation and Reuse Standards*, the *Design Criteria for Municipal Wastewater Land Treatment*, and Chapter 173-221 WAC.

The permit also includes limitations on the quantity and quality of the wastewater applied to the rapid infiltration basins that have been determined to protect the quality of the ground water. The approved engineering report includes specific design criteria for this facility. Water quality-

based limitations are based upon compliance with the Ground Water Quality Standards (Chapter 173-200 WAC).

The more stringent of the water quality-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The following permit limitations are necessary to satisfy the requirement for AKART:

GROUND WATER QUALITY-BASED EFFLUENT LIMITATIONS

In order to protect existing water quality and preserve the designated beneficial uses of Washington's ground waters including the protection of human health, WAC 173-200-100 states that waste discharge permits shall be conditioned in such a manner as to authorize only activities that will not cause violations of the Ground Water Quality Standards. Drinking water is the beneficial use generally requiring the highest quality of ground water. Providing protection to the level of drinking water standards will protect a great variety of existing and future beneficial uses.

Applicable ground water criteria as defined in Chapter 173-200 WAC and in RCW 90.48.520 for this discharge include the following:

Table 2: Ground Water Quality Criteria

Total Coliform Bacteria	1 Colony/ 100 mL
Total Dissolved Solids	500 mg/L
Chloride	250 mg/L
Sulfate	250 mg/L
Nitrate	10 mg/L
pH	6.5 to 8.5 standard units
Manganese	0.05 mg/L
Total Iron	0.3 mg/L
Toxics	No toxics in toxic amounts

The Department has reviewed existing records and is unable to determine if background ground water quality is either higher or lower than the criteria given in Chapter 173-200 WAC; therefore, the Department will use the criteria expressed in the regulation in the proposed permit. The discharges authorized by this proposed permit are not expected to interfere with beneficial uses.

No valid upgradient background data were available for list pollutants. The Permittee is required in section S2 B of the proposed permit to collect background concentrations near the point of discharge. This information may result in a permit modification or limits in the next renewal.

COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT ISSUED APRIL 17, 2000

Table 3: Comparison of Previous and New Limits

Parameter	Existing Limits (old facility) Average weekly	Proposed Limits Average monthly
Flow	0.180 mgd	0.30 mgd
BOD_5	30 mg/l	30 mg/l
TSS	30 mg/l	30 mg/l
pH	6.0-9.0	6.5 – 8.5

The proposed limits were taken from the November 2000, Predesign Report for Wastewater Treatment Plant Improvements, by Wilson Engineering. These proposed limits were based on the design criteria of the system.

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, that ground water criteria are not violated, and that effluent limitations are being achieved (WAC 173-216-110).

INFLUENT AND EFFLUENT MONITORING

The monitoring and testing schedule is detailed in the proposed permit under Condition S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

GROUND WATER MONITORING

The monitoring of ground water at the site is required in accordance with the Ground Water Quality Standards, Chapter 173-200 WAC. The Department has determined that this discharge has a potential to pollute the ground water. Therefore the Permittee is required to evaluate the impacts on ground water quality. Monitoring of the ground water at the site boundaries and within the site is an integral component of such an evaluation.

OTHER PERMIT CONDITIONS

REPORTING AND RECORDKEEPING

The conditions of S3. are based on the authority to specify any appropriate reporting and recordkeeping requirements to prevent and control waste discharges (WAC 173-216-110).

FACILITY LOADING

The design criteria for this treatment facility are taken from the 2000 engineering report prepared by Wilson Engineering and are as follows:

Population design	2,586
Monthly average flow (max. month):	0.3 mgd
BOD influent loading:	517 lbs/day
TKN influent loading	74 lbs/day
TSS influent loading:	465 lbs/day

The permit requires the Permittee to maintain adequate capacity to treat the flows and waste loading to the treatment plant (WAC 173-216-110[4]). The Permittee is required to submit an engineering report when the plant reaches 85% of its flow or loading capacity. For significant new discharges, the permit requires a new application and an engineering report (WAC 173-216-110[5]). : The permit requires the Permittee to submit annual reports comparing the actual flow and waste loadings to the design criteria for the plant.

OPERATIONS AND MAINTENANCE

The proposed permit contains condition S.5. as authorized under RCW 90.48.110, WAC 173-220-150, Chapter 173-230 WAC, and WAC 173-240-080. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment.

RESIDUAL SOLIDS HANDLING

To prevent water pollution the Permittee is required in permit condition S6. to store and handle all residual solids (grit, screenings, scum, sludge, and other solid waste) in accordance with the requirements of RCW 90.48.080 and State Water Quality Standards.

The final use and disposal of sewage sludge from this facility is regulated by U.S. EPA under 40 CFR 503 and by Ecology under Chapter 70.95J RCW and Chapter 173-208 WAC. The disposal of other solid waste is under the jurisdiction of the local health district.

Requirements for monitoring sewage sludge and recordkeeping are included in this permit. This information will by used by Ecology to develop or update local limits and is also required under 40 CFR 503.

PRETREATMENT

WAC 173-216-110 requires that the list of prohibitions in WAC 173-216-060 be included in the permit.

GROUND WATER QUALITY EVALUATION (HYDROGEOLOGIC STUDY)

In accordance with WAC 173-200-080, the permit requires the Permittee to prepare and submit a hydrogeologic study for Departmental approval. The permittee completed this report in 1999. It was concluded in this document that new ground water monitoring wells would be installed and monitored to achieve an accurate ambient background groundwater levels. Quarterly monitoring of these three new wells is scheduled to continue through out the proposed permit cycle.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to ground water permits issued by the Department.

Condition G1 requires responsible officials or their designated representatives to sign submittals to the Department. Condition G2 requires the Permittee to allow the Department to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending or terminating the permit. Condition G4 requires the Permittee to apply to the Department prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to submit written notice of significant increases in the amount or nature of discharges (typically new industrial discharges) into the sewer system tributary to the permitted facility. Condition G6 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G7 prohibits the Permittee from using the permit as a basis for violating any laws, statutes or regulations. Condition G8 requires application for permit renewal 60 days prior to the expiration of the permit. Condition G9 requires the payment of permit fees. Condition G10 describes the penalties for violating permit conditions.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxics, and to protect human health and the beneficial uses of waters of the State of Washington. The Department proposes that the permit be issued for 5 years.

REFERENCES FOR TEXT AND APPENDICES

Faulkner, S.P., Patrick Jr., W.H., Gambrell, R.P., May-June, 1989. Field Techniques for Measuring Wetland Soil Parameters, Soil Science Society of America Journal, Vol. 53, No.3.

Hammond, Collier & Wade-Livingstone Associates Incorporated, 1999. City of Soap Lake Hydrogeologic Report. 76 pp.

Washington State Department of Ecology, 1993. Guidelines for Preparation of Engineering Reports for Industrial Wastewater Land Application Systems, Ecology Publication # 93-36. 20 pp.

Washington State Department of Ecology and Department of Health, 1997. Water Reclamation and Reuse Standards, Ecology Publication # 97-23. 73 pp.

Washington State Department of Ecology.

Laws and Regulations(http://www.ecy.wa.gov/laws-rules/index.html)

Permit and Wastewater Related Information
(http://www.ecy.wa.gov/programs/wq/wastewater/index.html)

Washington State Department of Ecology, 1996. Implementation Guidance for the Ground Water Quality Standards, Ecology Publication # 96-02.

Washington State University, November, 1981. Laboratory Procedures - Soil Testing Laboratory. 38 pp.

Wilson Engineering, 2000. Predesign Report for Wastewater Treatment Plant Improvements. 13 pp.

APPENDICES

APPENDIX A--PUBLIC INVOLVEMENT INFORMATION

The Department has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public notice of application was published on January 31 and February 7, 2006 in the Columbia Basin Herald to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

This permit was written by Wayne Peterson.

APPENDIX B--GLOSSARY

Ambient Water Quality--The existing environmental condition of the water in a receiving water body.

Ammonia--Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation--The average of the measured values obtained over a calendar month's time.

Best Management Practices (BMPs)--Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the State. BMPs include treatment systems, operating procedures, and practices to control: plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD_5--Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD_5 is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass--The intentional diversion of waste streams from any portion of the collection or treatment facility.

Chlorine--Chlorine is used to disinfect wastewaters of pathogens harmful to human health. It is also extremely toxic to aquatic life.

Compliance Inspection - Without Sampling--A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling--A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample--A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be "time-composite"(collected at constant time intervals) or "flow-proportional" (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots.

Construction Activity--Clearing, grading, excavation and any other activity which disturbs the surface of the land. Such activities may include road building, construction of residential houses, office buildings, or industrial buildings, and demolition activity.

Continuous Monitoring –Uninterrupted, unless otherwise noted in the permit.

Distribution Uniformity--The uniformity of infiltration (or application in the case of sprinkle or trickle irrigation) throughout the field expressed as a percent relating to the average depth infiltrated in the lowest one-quarter of the area to the average depth of water infiltrated.

Engineering Report--A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Fecal Coliform Bacteria--Fecal coliform bacteria are used as indicators of pathogenic bacteria in the effluent that are harmful to humans. Pathogenic bacteria in wastewater discharges are controlled by disinfecting the wastewater. The presence of high numbers of fecal coliform bacteria in a water body can indicate the recent release of untreated wastewater and/or the presence of animal feces.

Grab Sample--A single sample or measurement taken at a specific time or over as short period of time as is feasible.

Industrial Wastewater--Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business, from the development of any natural resource, or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Maximum Daily Discharge Limitation--The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL)--The minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

pH--The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Quantitation Level (QL)-- A calculated value five times the MDL (method detection level).

Soil Scientist--An individual who is registered as a Certified or Registered Professional Soil Scientist or as a Certified Professional Soil Specialist by the American Registry of Certified Professionals in Agronomy, Crops, and Soils or by the National Society of Consulting Scientists or who has the credentials for membership. Minimum requirements for eligibility are: possession of a baccalaureate, masters, or doctorate degree from a U.S. or Canadian institution with a minimum of 30 semester hours or 45 quarter hours professional core courses in agronomy,

crops or soils, and have 5,3,or 1 years, respectively, of professional experience working in the area of agronomy, crops, or soils.

State Waters--Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater--That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit--A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria--A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids--That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)--Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit--A limit on the concentration of an effluent parameter that is intended to prevent pollution of the receiving water.

APPENDIX C--TECHNICAL CALCULATIONS

APPENDIX D--RESPONSE TO COMMENTS